A NEW SPECIES AND SUBGENUS OF AUSTRALIAN *DERMOMUREX* (GASTROPODA: MURICIDAE)

EMILY H. VOKES

Department of Geology
Tulane University, New Orleans, Louisiana

Plate 1

SUMMARY

A new species of muricine gastropod from the Dampier Archipelago, Western Australia, is described herein as *Dermomurex antonius* and made the type of *Viator*, a new subgenus of *Dermomurex*. In addition, the preoccupied name *Murex inermis* Sowerby non Philippi, type species of the subgenus *Takia*, is renamed *Dermomurex (Takia) infrons*.

In the course of work upon the aspelloids* of the western Atlantic I became involved, somewhat inadvertently, in a new molluscan species from Australia. In 1960 two unidentifiable specimens of muricid were collected by the King-Western Australian Expedition, one from Sholl Island, the second off Legendre Island, both in the Dampier Archipelago. Originally these were sent to the American Museum of Natural History to Anthony D'Attilio, who, with William Old was to describe this new species, considered by them to be referable to the genus *Takia* Kuroda, 1953 (type species: *Murex inermis* Sowerby). However, after some consideration it was concluded that the species was not unnamed but the specimens were examples of "*Murex*" *tatei* Verco, 1895 (*Trans. R. Soc. S. Aust.* 19: 84).

I accepted the identification of this strange aspelloid as "*Murex*" *tatei* with some reservation, for I had considered that species, on the basis of Verco's original description, to be a *Murexiella*, which is a different group to say the least. But there was a strong resemblance to Verco's illustration and I was almost convinced. Subsequently I received a second species of unknown Australian muricid for identification. This one was immediately recognizable as *Murex tatei* and it is indeed a *Murexiella*. However, it is not a *Murexiella* s.s, as I had assumed from the illustration (which is poor) but an example of *Subpterynotus*, a subgenus based upon an American fossil species. (See the accompanying paper entitled "Three species of Australian Muricidae with ancestors in the American Tertiary.")

By eliminating *Murex tatei* the original unknown species once again became unnamed. By this time (over ten years had elapsed since its discovery) Mr. D'Attilio no longer had any particular interest in the species, and inasmuch as it had become an important part of my western Atlantic systematic treatment, he kindly suggested that I should be the one to describe it.

---

* This is a non-taxonomic term referring to the members of two closely related genus-groups: *Aspella* Mörch and *Dermomurex* Monterosato, and their respective subgenera. All are marked by a peculiar heavy, chalky, deciduous outer layer, which has been termed "intritacalx" by D'Attilio and Radwin (1971: 344).

For many years (1963 to date) I have been monographing the western Atlantic species of Muricidae and part 6 of that series will cover the allied genera *Aspella* and *Dermomurex*. Early in the study of the aspelloids it became apparent that a major revision of the systematics of the entire group on a world-wide basis was necessary. The complete history and revised taxonomy of the two genera will be covered more completely in that paper. But one of the results of the major study was the conviction that the differences between this new species, together with its Tertiary ancestors, and the members of *Takia* require the erection of a new subgenus.

The *Takia* line is apparently ancestral to all of the *Dermomurex* group, being first seen in the Oligocene beds of France (*"Murex" cotteavi* Meunier, 1880, *Nouv. Arch. Mus. Hist. Nat. [Paris]*, (2), 3: 253) and Mississippi, U.S.A. (unnamed species). In the Australian area *Takia* appears with the middle Miocene *"Murex" pachystirus* Tate, 1888 (*Trans. R. Soc. S. Aust.* 10: 102) and is found today in an almost unchanged form in the type species, *D. infrons* (new name for *"Murex" inermis* Sowerby, see below). In the New World there is a gap from the Oligocene ancestor to the Recent where the group is represented by the eastern Pacific *"Aspella" myrakeenae* Emerson and D'Attillio, 1970 (*Nautilus*, 83: 89).

The line typified by the undescribed Australian species apparently has its origins in the early Miocene of North America, with the species *"Murex" sexangulus* Dall, 1915 (*U.S. Natl. Mus., Bull.* 90: 74). This group is discussed further in the above-mentioned accompanying paper. But the long separation and the parallel development of the two distinct lines since early Miocene time is a strong factor in the decision to name a new subgenus. If this Recent form were the only representative of its group one would be tempted to say it is but a strange form of *Takia*; however, when viewed in the light of its ancestry the difference becomes more undeniable and the similarities are generic rather than subgeneric.

TAXONOMY

Family Muricidae

Genus *Dermomurex* Monterosato, 1890

Type species: (o.d.) *Murex scalarinus* Bivona, 1832 = *scalaroides* Blainville, 1829.

Subgenus *Takia* Kuroda, 1953

Type species (o.d.) *Murex inermis* G. B. Sowerby II.

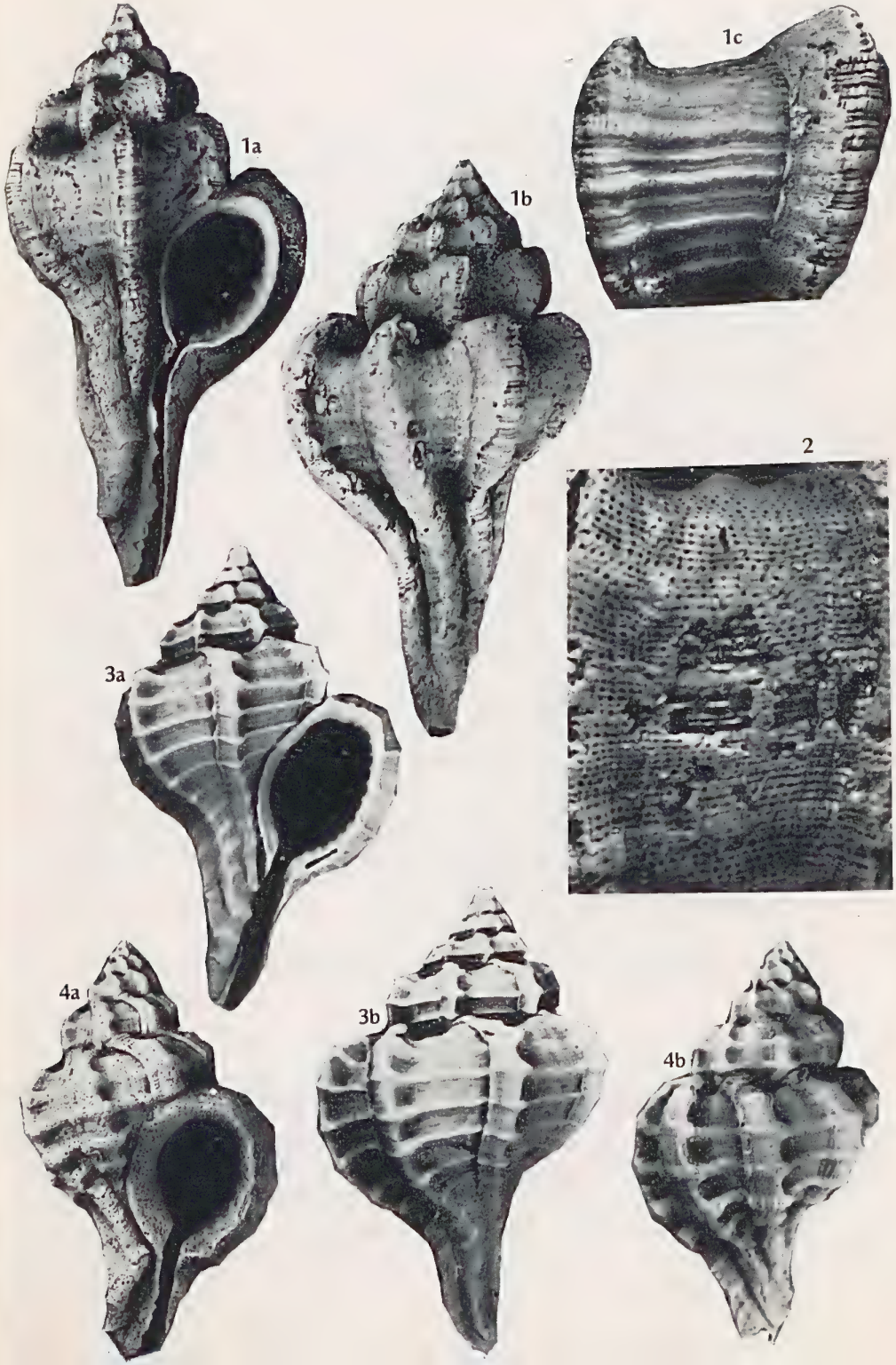
The name of the type species of this subgenus is preoccupied and therefor a new name is here proposed:

Dermomurex (Takia) infrons nom. nov.

Murex inermis Sowerby 1841a: 146; Sowerby, 1841b: pl. 192, fig. 87.
Non *Murex inermis* Philippi, 1836: 209, pl. 11, fig. 25 (description on p. 209, name appears only on plate explanation).

PLATE I

1. *Dermomurex (Viator) antonius* Vokes, n. sp. Sholl Island, Dampier Arch., Western Australia. Holotype, figs. 1a, 1b, X 3½; fig. 1c, X 7. WAM. 3646-67.
2. *Dermomurex (Viator) antonius* Vokes, n. sp. West of Legendre Island, Dampier Arch., Western Australia. Paratype, X 20. WAM. 2843-67.
3. *Dermomurex (Viator) asteriscus* (Tate). Muddy Creek, west of Hamilton, Victoria. Figured specimen, X 3. USNM 157237.
4. *Dermomurex (Viator) sexangulus* (Dall). Silverdale, North Carolina. Holotype *Murex gilletteorum* Vokes, X 1¼. USNM 644377.


1a
1b
1c
2
3a
3b
4a
4b

Subgenus *Viator* subgen. nov.

Type species (o.d.) *Dermomurex (Viator) antonius* sp. nov.

Subgeneric diagnosis: Shell moderate in size; six rounded varices per whorl, extending the length of the siphonal canal. The latter elongated, completely straight, open by a narrow slit. Moderately heavy spiral ornamentation. Suture deeply impressed, giving the whorls an inflated appearance. Aperture rounded, with several small lirations on the inner side of the lip; inner lip smooth, with a medium to large callused area. Exterior of shell covered with a thick intritacalx. Animal unknown; operculum muricoid with apical nucleus.

Remarks: This new subgenus is mostly nearly akin to *Dermomurex (Takia)* but differs in having a longer, straight siphonal canal. The spiral ornamentation is also much stronger, although it is masked by the heavy intritacalx and is best seen only on worn (or fossil) specimens. The spire is proportionally shortened in *Viator* so that the ratio of the distance from the posterior edge of the aperture to the apex is approximately one-third the total height of the shell, whereas it is almost exactly one-half in *Takia.*

Although all species of the genus *Dermomurex* begin their development with six varices per whorl, in the members of *Dermomurex* s.s. these are soon reduced to only three varices per whorl with the alternate varices replaced by a peculiar buttress-like structure, which crosses from one whorl to the next. From *Dermomurex* s.s., typified by *D. scalaroides* (Blainville), *Viator* is readily distinguished by the retention of the original six varices, by the heavier spiral ornamentation, and by the greatly extended siphonal canal. All species of *Dermomurex* s.s. have a very short canal and a greatly extended spire so that the shell has a biconic outline. In summary, the ancestral *Takia* is the median shell form; in *Viator* the trend is toward shortening the spire and lengthening the canal, whereas in *Dermomurex* s.s. just the opposite occurs, with the spire extended and the canal shortened.

In the subgenus *Takia* the original six varices usually are retained throughout the development of the adult shell; however, some specimens have been seen in which there is a tendancy to lose varices and this may suggest a racial characteristic that is only poorly developed in this group but well developed in the typical subgenus.

Dermomurex (Viator) antonius sp. nov.

Plate 1, figures 1, 2

Description: Protoconch relatively large, 1½ bulbous whorls, slightly papillate; terminating at a pronounced cresentic varix. Six teleoconch whorls in adult. Spiral ornamentation normally masked by intritacalx but when latter is removed the shell can be seen to be covered by numerous spiral cords of three orders of magnitude: moderately heavy cords, about six in number on the body whorl plus an additional three or four on the siphonal canal; between each pair of major cords, a slightly smaller spiral ridge and alternating with these a tertiary thread, so that the pattern formed is a typical muricine one of first order spiral, third order, second, third, first, repeated over the entire surface. (See Pl. 1, fig. 1c). On the spire three major spiral cords beneath the intritacalx. Axial ornament-

ation of six rounded varices per whorl, which extend the entire length of the anterior canal. Suture greatly impressed, crossed by the varices, which abut each previous whorl slightly abaxially to the corresponding varix. Aperture oval, with small, raised peristome, about seven indistinct denticles within the outer lip; inner lip smooth. Siphonal canal long, straight, with previous terminations fused into an almost smooth tube, nearly covered over by a thin plate extending from the columellar wall, but open by a narrow slit. Color of shell a light brown but normally covered by the ivory-colored intritacalx, which is a thick, spongy, deciduous, calcareous material that when unworn has the appearance of having a series of small perforations arranged in spiral rows over the entire external shell surface. When broken away, as it frequently is, the interior of this intritacalx can be seen honeycombed with fine tubes, in spiral lines circling the shell (see Pl. 1, fig. 2). Animal unknown; operculum muricoid with apical nucleus.

Type locality: Sholl Island, Dampier Archipelago, Western Australia.

Measurements:

	Total height mm.	Width mm.	Spire height mm.
Holotype W.A.M. 3646-67	25.7	13.5	10.0
Paratype W.A.M. 2834-67	15.7	8.8	5.7

Paratype locality: "2 miles" (ca. 3.2 km) west of Legendre Island, Dampier Archipeligo, W. A. Sponge and rubble bottom, "23 fathoms" (ca. 42 m), coll. June 6, 1960.

Remarks: This new species somewhat resembles *D. (Takia) infrons* (n.n. pro *Murex inermis* Sowerby non Philippi) but may be distinguished by its longer almost completely straight siphonal canal, its proportionally shorter spire, and its stronger ornamentation both spiral and axial. Its nearest relative is the Miocene (Balcombian) *"Murex" asteriscus* Tate, 1888 (*Trans. R. Soc. S. Aust.* 10: 102). This ancestral species, here figured on pl. 1, fig. 3, is a less ornamented species, with only major spiral cords, all approximately of the same strength with faint threads between, in contrast to the varying orders of spirals seen in *D. antonius*. The aperture of *D. antonius* is also relatively smaller than that of *D. asteriscus*.

It gives me great pleasure to name this species in honor of Anthony D'Attilio, of the San Diego Natural History Museum, a devoted student of the Muricidae.

REFERENCES

D'ATTILIO, A. and G. E. RADWIN, 1971. The Intritacalx, an undescribed shell layer in mollusks. *Veliger*, 13 (4): 344-347.

PHILIPPI, R. A., 1836. *Enumeratio molluscorum Siciliae*. 1: 1-267. Berlin.

SOWERBY, G. B., JR., 1841a, Description of some new species of *Murex*, principally from the collection of H. Cuming, Esq., *Proc. Zool. Soc. London* pt. 8: 137-147.

——— 1841b. *Conchological Illustrations*. London, pls. 187-199.